

**CLASS SPECIFICATION**  
**County of Fairfax, Virginia**

**CLASS CODE:** 6388

**TITLE:** HVAC TECHNICIAN I

**GRADE:** S-19

**DEFINITION:**

Under general direction, performs journey-level maintenance, repair, and installation of industrial and commercial HVAC (Heating, Ventilation, Air Conditioning) equipment and systems; and performs related work as required.

**DISTINGUISHING CHARACTERISTICS OF THE CLASS:**

The HVAC Technician I differs from the HVAC Technician II in that HVAC Technician I performs routine maintenance and repair tasks, whereas the HVAC Technician II performs the more complex diagnostic HVAC repairs, requiring a greater level of skill and knowledge to maintain, repair and restore systems, and serves as a lead, master-level technician.

**ILLUSTRATIVE DUTIES:**

Maintains, installs, troubleshoots, and repairs industrial, residential, and commercial mechanical, air-conditioning, heating and ventilating equipment and control systems;

Troubleshoots, repairs, installs, and maintains complex computer- operated direct digital control (DDC), energy management control systems, and related software programs, to include programmable microprocessors, central processing units with multiple analog and digital inputs and outputs, transducers, thermistors, and electric and electronic damper and valve actuators; Calibrates, troubleshoots, repairs, installs, and maintains complex pneumatic control systems, to include components such as receiver controllers, signal selectors, pneumatic reversing relays, temperature transmitters, direct and reverse acting pneumatic thermostats, pneumatic electric switches and electric pneumatic switches, pneumatic damper and valve operators, air-compressors, and refrigerated air-dryers;

Troubleshoots, repairs, installs, and maintains complex mechanical, air-conditioning, heating and ventilating equipment such as chillers, air-conditioners, heat-pumps, oil and gas fired boilers, oil and gas furnaces, cooling towers, pumps, air-handlers, exhaust air units, make up air units, duct air conveyance systems, variable air volume systems, variable/volume temperature systems, multi-zone units, electrical power and control circuits, time clocks, gas piping, fuel oil supply piping, fossil fuel burning device flue gas systems, condensate pump and drain lines, fan coil units, condensing units, unit heaters, radiant and fan forced heaters, and hydronic heating and cooling systems;

Carries out designated procedures for seasonal start-ups and shut-downs;

Diagnoses and troubleshoots building air comfort and temperature problems; air-distribution, air balancing or stratification problems; and building insulation or vapor barrier deficiencies;

Ensures mechanical systems are running at peak efficiency by inspecting equipment for operating efficiency and safety standards;

Ensures energy management and energy saving strategies are maintained and implemented properly and efficiently;  
Monitors and inspects construction projects and contract work to ensure compliance with contractual agreements and with national, state, and local Code requirements;  
Inspects work in progress and upon completion for conformance with prescribed specifications and safety standards;  
Maintains records of work performed, as well as parts and materials used, through the use of work orders, daily logs, computerized maintenance management system (CMMS), material request forms, overtime and leave slips, daily credit card transaction logs, credit card receipts, and vendor invoices;  
Maintains records of equipment failures and repairs;  
Orders parts for emergency and routine repairs;  
Maintains records of equipment operation logs of temperature, pressures, volts, amps, combustion efficiency reports, safety inspections, and equipment refrigerant records;  
Produce HVAC system and efficiency reports that identify system problems or confirm proper operating conditions, and makes recommendations for repairs or improvements;  
Trains, coaches, and mentors subordinates.

**REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:**

Knowledge of the standard practices, methods, tools, and materials common to the HVAC trade;  
Knowledge of the building and fire codes related to work performed in the HVAC trade;  
Knowledge of the occupational hazards and safety precautions of the trade;  
Working knowledge of operations and maintenance of buildings and building systems to include heating, ventilation and air conditioning, electrical, plumbing, and energy systems;  
Working knowledge of the use of Direct Digital Controls, personal computers, and related software to operate systems, identify problems, and repair equipment;  
Ability to read and interpret blueprints, as-built control diagrams, and HVAC equipment electrical schematic control wiring diagrams;  
Ability to use tools and test equipment pertinent to the trade, to include combustion efficiency testers, electrical meters, refrigerant charging charts, vacuum pumps, micron gauges, refrigerant electronic leak detectors, infrared temperature testers, pneumatic test equipment, electronic temperature testers, micro amp flame signal testers, gas pressure testers, manometers, air-balancing test equipment, water balancing test equipment, electronic refrigerant charging scales, propane torches, map gas torches and oxygen and acetylene torches, refrigerant reclaim and recovery equipment, and hand and power tools;  
Ability to lift, stoop, bend, crawl, and work in tiring and uncomfortable positions and from ladders and scaffolds;  
Ability to work in uncomfortably hot or cold temperatures.

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**EMPLOYMENT STANDARDS:**

Any combination of education, experience, and training equivalent to the following:

High school diploma or G.E.D. issued by a state department of education; PLUS

Two-year technical degree in air conditioning functions such as heating, cooling, and ventilating;

PLUS

Two years of progressively responsible air conditioning or HVAC experience

OR

Completion of an apprentice-level vocational training program in air conditioning; PLUS

Progressively responsible air conditioning or HVAC experience combined with the apprentice training totaling four years of progressively responsible air conditioning or HVAC experience.

**CERTIFICATES AND LICENSES REQUIRED:**

Valid state motor vehicle license;

Universal refrigerant recovery license;

Valid journeyman certification from the state of Virginia or the ability to obtain one within one year of appointment.

**NECESSARY SPECIAL REQUIREMENTS:**

None.

ESTABLISHED: June 2, 2006